

NOMENCLATURAL NOTES ON THE  
AGRILINAE (COLEOPTERA, BUPRESTIDAE): II *AGRILUS*<sup>1</sup>

Henry A. Hespeneide<sup>2</sup>

Examination of type of members of the genus *Agrilus* and several closely related genera has revealed the necessity for making a number of nomenclatural changes, as well as for designating lectotypes for certain species in the Biologia Centrali-Americana collection in the British Museum.

A major change is the merging of the genus *Paradomorphus* Wat. into *Agrilus*. Waterhouse himself (1889) expressed doubt about the validity of the genus, which is based only on the relative length of the tarsal segments. This character varies between the sexes within certain species in *Agrilus* (e.g. *A. masculinus* Lec.—see Fisher 1928:58). There are several distinct species groups within *Paradomorphus* as presently constituted, each of which has closer relatives (and even synonyms) within *Agrilus* than with the other groups of *Paradomorphus*. *Agrilus* may yet be conveniently split into genera of more manageable size (cf. Obenberger, 1957), but *Paradomorphus* is clearly not a tenable segregate.

In the following treatment species are arranged in alphabetical order and are mentioned only if a nomenclatural change is necessary, or new synonymy is given. A complete revision of the genus in Central America is presently being prepared, and the author solicits material for this end. Unless stated otherwise, all new combinations are transfers of species from *Paradomorphus* to *Agrilus*.

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<sup>2</sup> Biological Sciences Group, University of Connecticut, Storrs, CT. 06268. Present Address: Department of Biology, University of California, Los Angeles, CA. 90024

*Agrilus*, Curtis, 1825.*Paradormorphus*, Waterhouse, 1887:183. (NEW SYNONYMY)

*Agrilus albicollis* (Waterhouse, 1887:184). New Combination. This Jamaican species is the genotype of the genus *Paradormorphus* and is very closely related to the Mexican *A.(P.) collaris* Wat. The British Museum has two specimens bearing the handwritten label "Jamaica", but only one bears a red "Type" label.

*Agrilus angustus* Chevrolat, 1835. Synonyms: *A. multinotatus* L. & G., 1837; *A. propinquus* Chevrolat, 1837. *A. patruelis* Kerremans, 1894, Ann. Soc. Ent. France 44:415, New Synonymy. The types of both of Chevrolat's names, and that of Kerremans's *A. patruelis* have been examined, and all represent the same species. The species varies somewhat in size, but is otherwise rather uniform in morphology.

*Agrilus aureoviridis* Waterhouse, 1889:118. Synonyms: *A. clarus* Kerremans, 1900, Ann. Soc. Ent. Belg. 44:325, New Synonymy. Two specimens in the British Museum may be considered types of *aureoviridis*. One bears the labels "Etna, Mexico. Salle Coll." and, handwritten, "*Agrilus aureoviridis*, (Type) Waterh.,"; it is here designated the Lectotype. A second specimen bears the label "Chilpancingo, Guerrero, 4600 ft. July, H. H. Smith," and is considered a paratype.

*Agrilus biplagiatus* (Waterhouse, 1889:55), New Combination. The type is unique.

*Agrilus carissimus* (Waterhouse, 1889:187), New Combination. There are two specimens with similar collection data. The one bearing the additional label "*Paradormorphus carissimus* (Type) Waterh." is here designated the Lectotype. The other is considered a paratype.

*Agrilus cephalotes* Waterhouse, 1889:93. Synonyms: *A. humeralis* Kerremans, 1897, Mem. Soc. Ent. Belg. 6:97, New Synonymy. *A. piceolus* Fisher, 1933, Proc. U. S. Nat. Mus. 82(27):17, New Synonymy. Comparison of the unique types of *cephalotes* and *humeralis* with each other and with material identical to that of the type of *piceolus*, shows these three names refer to the same species. The genitalia of this species are very unusual.

*Agrilus collaris* (Waterhouse, 1889:52), New Combination. Synonym: *A. cinteutli* Fisher, 1938, Sbornik Ent. Odd. Mus., Prague, 16:139, New Synonymy. A specimen from the American Museum of Natural History is identical to the types of both names. (The transfer of *Paradormorphus collaris* to *Agrilus* requires a new name for *Agrilus collaris* Kerremans [1898, Bull. Soc. Ent. France 1898:83] from Africa and Madagascar, for which I propose the name *Agrilus neocollaris* Hespenseide, New Name.)

*Agrilus corrugatus* (Waterhouse, 1889:56), New Combination. Synonym: *Paradormorphus persimilis* Waterhouse, 1889:56, New Synonymy. Two specimens labeled Juquila, and perhaps a third labelled only "Mexico" qualify as types of *corrugatus*. A specimen from Juquila with the additional label "*Agrilus* (sic!) *corrugatus*, (Type) Waterh." is designated the Lectotype. The other specimen, a male, is considered a paratype. The unique type of *persimilis* is also a male and the genitalia of the two are identical. The distinctive features of *persimilis* enumerated by Waterhouse are partly developmental deformities.

*Agrilus delicatulus* Waterhouse, 1889:191. Synonyms: *A. mixcoatli* Fisher, 1938, op. cit., 135, New Synonymy. *A. apachei* Knull, 1938, Ann. Ent. Soc. Am. 31:139, New Synonymy. Four specimens two each, on two pins with identical collection data, qualify as the type of *delicatulus*. One pin bears the additional label "*Agrilus delicatulus* (Type)

Waterhouse", and one of these specimens is arbitrarily designated the Lectotype. A specimen identical with the type of *delicatulus* has been compared with the types of both *mixcoatli* and *apachei* and show them to represent the same species.

*Agrilus detractus* Waterhouse, 1889:86. Synonym: *A. robustus* Waterhouse, 1889:89, New Synonymy. Thirteen specimens qualify as types of *detractus*, all with the label "Chilpancingo, Guerrero. Höge." One of these bears the additional label "*Agrilus detractus*, ♂ (*Type*) Waterh." and is here designated the Lectotype; twelve other specimens are considered paratypes. Two somewhat damaged females from Chontales, Nicaragua, qualify as types of *robustus*. One bears the additional label "*Agrilus robustus*, (*Type*) Waterh." and is designated the Lectotype. Comparison of the two sets of type material shows no significant differences.

*Agrilus elegantulus* (Waterhouse, 1889:53), New Combination. The type is unique.

*Agrilus emarginatus* (Waterhouse, 1889:53), New Combination. The type is unique.

*Agrilus flohri* (*Trypantius flohri* Waterhouse, 1890, Ann. Mag. Nat. Hist. 6,219) New Combination. Synonyms: *A. opacus* Kerremans, 1897. *A. cupreomaculatus* Duges, 1891, La Naturelle, 2:30, New Synonymy. The types of both *Trypantius flohri* and *Agrilus opacus* are unique and deposited in the British Museum. Although I have not seen the type of *cupreomaculatus*, I use that name in the sense of Fisher (1928).

*Agrilus gibbifrons* (Waterhouse, 1889:187), New Combination. The type is unique.

*Agrilus gracilipes* Waterhouse, 1889:81). Synonym: *A. carinifer* Waterhouse, 1889:82, New Synonymy. *Agrilus gracilipes* is represented by three specimens in the British Museum that can be considered types. One from Volcan de Chiriqui bears the label "*Agrilus gracilipes*, ♂ (*Type*) Waterh." and is designated the Lectotype; a female with a similar label is designated the Lecto-allotype. *Agrilus carinifer* is represented by four specimens that can be considered types. One labelled only "Mexico" bears the additional label "*Agrilus carinifer* ♂ (*Type*) Waterh." and is designated the Lectotype; a female with a similar label is designated the Lecto-allotype. The two male types are identical in all respects, including genitalia.

*Agrilus hainesi* Hespeneheide, New Name for *Paradormorphus plagiatus* Waterhouse, 1889:55. The name *Agrilus plagiatus* is preoccupied by *Agrilus plagiatus* Ganglbauer, 1889, Horae Soc. Ent. Ross. 24: 31. Although both names were published in 1889, the signature containing *Paradormorphus plagiatus* is dated December of that year, whereas Ganglbauer's species appears early in its volume. The new name is in honor of Mr. Robert L. Haines who encouraged my early interest in natural history. The type of *Paradormorphus plagiatus* is unique.

*Agrilus ignotus* Waterhouse, 1889:98. Synonym: *A. silvicola* Fisher, 1933, op. cit., 10, New Synonymy. Although specimens collected by both Höge and Smith are listed in the type description, only one of Höge's specimens bears a type label at the British Museum. Waterhouse discussed possible variability in this species, although he admitted more than one species may have been involved. Although no definite decision can be made now, Fisher's *silvicola* is identical with the type of *ignotus*. One or more other names may eventually prove to be synonyms if a polytypic species concept is adopted for this form.

*Agrilus inclinatus* Waterhouse, 1889:62. Synonym: *A. subobtusus* Kerremans 1894, op. cit., 415, New Synonymy. Two specimens qualify as the type of *inclinatus*, one each from Vera Cruz and Volcan de Chiriqui. The latter specimen is a male and is designated the Lectotype. No differences could be found between these and the unique type of *subobtusus*.

*Agrilus latevittatus* (Waterhouse, 1889:54), New Combination. The type is unique.

*Agrilus laticeps* Waterhouse, 1889:113. Synonyms: *A. subniger* Kerremans, 1897, op. cit., 83, New Synonymy. *A. subviolaceus* Kerremans, 1897, op. cit., 84, New Synonymy. All three names are represented by unique types in the British Museum. The types of *laticeps* and *subviolaceus* are males with identical genitalia; the type of *subniger* is a female. Otherwise I can find no differences among these three individuals.

*Agrilus latifrons* Waterhouse, 1889:191. Synonym: *A. santaritae* Knull, 1937, Ent. News, 48:39, New Synonymy. Of the three specimens which are type material of *latifrons*, one from Teptlapa, Guerrero, Mexico, bears the additional label "*Agrilus latifrons*, (Type) Waterh." and is designated the Lectotype. Specimens identical with the types of *latifrons* are also identical with those of *santaritae*.

*Agrilus neoflohri* Hespeneheide, New Name for *Paradormorphus flohri* Waterhouse, 1897:664 (nec. *A. ("Trypantius") flohri* (Wat.) – see above.) The type is unique. With the transfer of this species and *Trypantius flohri* to *Agrilus*, the former requires a new name because it thereby becomes a junior homonym.

*Agrilus nigripennis* Waterhouse, 1889:96. Synonyms: *A. heyenei* Obenberger, 1917, Col. Rundschau, 1917:36, New Synonymy. *A. longus* Kerremans, 1900, op. cit., 333, New Synonymy. Nineteen specimens in the British Museum qualify as the type of *nigripennis*. A female specimen with the labels "V. de Chiriqui, 3-4000 ft. Champion" and "*Agrilus nigripennis* (Type) Waterh." is here designated the Lectotype. A male from a series of 8 specimens with identical collection data is designated the Lecto-Allotype. The types of both *heyenei* and *longus*, both in the British Museum, are identical with the type of *nigripennis*. Two female specimens labelled "Colombie, Clavereau" are the types of *longus*; one is arbitrarily designated the Lectotype.

*Agrilus obscureiguttatus* (Waterhouse, 1889:51), New Combination. Synonym: *A. valerii* Fisher, 1938, op. cit., 122, New Synonymy. A total of five specimens qualify as the type of *Paradormorphus obscureiguttatus*. Of these, two on a single card bear the label "David, Panama, Champion", and the additional label "*Paradormorphus obscureiguttatus*, (Type) Waterh." The two specimens are a male-female pair, of which the male is designated the Lectotype, the female the Lecto-allotype. The other two specimens, from Bugaba and Volcan de Chiriqui, (2-3000') are considered paratypes. A single specimen I collected on Cerro Campana, Panama, is identical with types of both names.

*Agrilus oculus* Waterhouse 1889:60. Synonym: *A. gestator* Kerremans, 1903, Wytzman, Gen. Ins, 12:273, New Synonymy. Two specimens from Cuernavaca, Morelos, Mexico qualify as types of *oculus*. One collected by Höge bears the additional label "*Agrilus oculus*, (Type) Waterh." and is designated the Lectotype. A unique specimen, also from Cuernavaca, is the type of *gestator*. Comparison of the two shows them identical.

*Agrilus phoenicopterus* Waterhouse, 1889:121. Synonym: *A. resplendens* Fisher, 1933, op. cit., 12, New Synonymy. Five specimens on four pins qualify as type material of *phoenicopterus*. The specimen bearing the labels "Juquila" and "Mexico. Salle Coll. 642" is designated the Lectotype. Two specimens from Cordova on a card, and specimens from Tuxtla and Mexico City are considered paratypes. A paratype of *resplendens* is deposited in the British Museum and was compared with the types of *phoenicopterus*. The coloration is different, but the specimens are otherwise identical.

*Agrilus ruginosus* (Waterhouse, 1889:52), New Combination. The type is unique.

*Agrilus scabrosus* Waterhouse, 1889:90. Synonym: *A. aztecus* Fisher, 1933, op. cit., New Synonymy. The type of *scabrosus* is unique. Five paratypes of *aztecus* are deposited in the British Museum and were compared directly with the type of *scabrosus*.

*Agrilus sexmaculatus* Waterhouse, 1889:117. Synonym: *A. domitor* Kerremans, 1903, op. cit., 269, New Synonymy. Four specimens qualify as the type of *sexmaculatus*. One bears the two labels "Cuernavaca, Morelos. June H.H.S." and "*Agrilus sexmaculatus* (Type) Waterh." and is designated the Lectotype. The other three specimens are paratypes. The unique type of *domitor* is also from Cuernavaca and is inseparable from material of *sexmaculatus*.

*Agrilus sparsus* Waterhouse, 1889:71. Synonym: *A. centeotlae* Fisher, 1938, op. cit., 123, New Synonymy. A specimen identical with the types of both these names is in my collection.

*Agrilus squalus* Waterhouse, 1889:114. Synonym: *A. canaluculicollis* Kerremans, 1897, op. cit., 58, New Synonymy. Nine specimens in the British Museum qualify as types of *squalus*. The specimen from Campeche, Mexico is arbitrarily designated as the Lectotype. The type of *canaliculicollis* from Brasil is indistinguishable from type material of *squalus*.

*Agrilus subguttatus* Waterhouse, 1889:84. Synonyms: *A. errans* Waterhouse, 1889:84, New Synonymy. *A. raptor* Kerremans, 1903, op. cit., 271, New Synonymy. *A. infidelis* Fisher, 1933, op. cit., 24, New Synonymy. Both of Waterhouse's names are represented by abundant type material — 10 specimens for *subguttatus*, 6 for *errans*. One male specimen of *subguttatus* from Misantla bears the additional label "*Agrilus subguttatus* (Type) Waterh." and is designated the Lectotype; another female specimen with similar labels is designated the Lecto-allotype. The types of *errans*, all from the Volcan de Chiriqui, Panama, include a male-female pair on a single pin, which also bears the label "*Agrilus errans* (Type) Waterh." The male is designated the Lectotype, the female the Lecto-allotype. No consistent qualitative differences in genitalia or other morphological characters could be recognized between these two series of specimens, or between these and the unique female type of *raptor* and 12 paratypes of *infidelis* at the British Museum.

*Agrilus tacitus* Kerremans, 1894, op. cit., 416. Synonym: *A. mentitus* Kerremans, 1894, op. cit., 418, New Synonymy. Two specimens in the Kerremans collection are labelled as types of *A. tacitus* and represent different species. A male has been designated the Lectotype. The unique type of *A. mentitus* lacks both a head and thorax, but is indistinguishable from the Lectotype of *tacitus*.

*Agrilus vermiculatus* (Waterhouse, 1889:51), New Combination. Two specimens with identical collection data could be considered types of this species. One bears the additional label "*Paradomorphus vermiculatus*, (Type) Waterh." and is designated the Lectotype; the other is considered a paratype.

*Agrilus tinctipennis* Fisher, 1933, op. cit., 15. Synonym: *A. xihutecutli* Fisher, 1938, op. cit., 142, New Synonymy. The type of *xihutecutli* is a male whereas that of *tinctipennis* is a female. The differences, largely in color, among these two specimens and a third in the collection of D. A. Verity do not exceed those within the closely-related and variable *A. delicatus* Waterhouse.

*Agrilus xanthonotus* Waterhouse, 1889:110. Synonym: *A. croceomaculatus* Waterhouse, 1889:111, New Synonymy. The type of *A. croceomaculatus* is unique. Four specimens qualify as types of *xanthonotus*; one of these from Juquila bears the label "Agrilus xanthonotus (Type) Waterh." and is designated the Lectotype. A second specimen from Juquila, and specimens from Tehuantepec and Caldera are considered paratypes. *Agrilus croceomaculatus* was distinguished from *xanthonotus* solely on differences in the pattern of spines and teeth on the elytral apices. Examination of numerous specimens shows this characteristic to vary greatly within and between populations. The color and size and shape of the pubescent spots also varies.

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ABSTRACT—The taxonomic status of 36 Central American species of the genus *Agrilus* is reviewed. The genus *Paradormorphus* is considered a synonym of *Agrilus*, and 13 species are transferred to *Agrilus*. Transfer of these and one species described in *Trypantius* require three new names: *Agrilus hainesi*, *A. necocollaris* and *A. neoflohri*. An additional 31 names given to North, Central and South American specimens are considered synonyms. Lectotypes of 22 names of Waterhouse and Kerremans are designated for specimens presently in the British Museum.—Biological Sciences Group, Univ. of Conn., Storrs CT, 06268. Present Address: Dept. of Biology, Univ. of Calif., Los Angeles, CA 90024.

*Descriptors:* Coleoptera, Buprestidae, *Agrilus*, *Paradormorphus*, *Trypantius*, North America, Central America, South America, new synonymy, new names, Lectotypes.